



Epidemiologic Notes & Reports

Volume 38 Number 3

March 2003

Obesity and Diabetes Continue to Rise

Ron Alsup
Surveillance & Evaluation Coordinator
Cardiovascular/Diabetes Program
Chronic Disease Prevention & Control Branch

The nation's obesity and diabetes epidemics continued to escalate during 2001, according to new data released by the Centers for Disease Control and Prevention (CDC). In a study published in the January 1 issue of the *Journal of the American Medical Association (JAMA)*, CDC reported that obesity in American adults climbed from 19.8% to 20.9% between 2000 and 2001. Diagnosed diabetes (including gestational diabetes) increased from 7.3% to 7.9% during the same one-year period. The increases were evident regardless of sex, age, race, and educational status.

Currently, more than 44 million Americans are considered obese by body mass index (BMI)*, accounting for an increase of 74% since 1991. During the same time frame, diabetes increased by 61%, reflecting the strong correlation between obesity and development of diabetes. Today an estimated 17 million people have diabetes in the United States.

CDC's nationwide data showed the prevalence of both diagnosed diabetes and obesity varied widely among states. Mississippi had the highest rate of obesity (25.9%); Colorado had the lowest (14.4%). Alabama had the highest rate of diagnosed diabetes (10.5%), while Minnesota had the lowest (5.0%).

The study found strong and significant associations between overweight, obesity, diabetes, high blood pressure, high cholesterol, asthma, and arthritis. Compared to adults with healthy weight (BMI values from 18.5 to 24.9), those with a body mass index of 40 or higher had an increased risk of being diagnosed with diabetes (7.37 times greater), high blood pressure (6.38 times greater), high cholesterol levels (1.88 times greater), asthma (2.72 times greater), and arthritis (4.41 times greater).

Other CDC study results found that African Americans had the highest rates of both obesity (31.1%) and

March Notes & Reports.....

Obesity and Diabetes Continue to Rise	1
CDC Diabetes Surveillance, 1994-2001	2
Prevalence of Diabetes in Kentucky	3
Recommended Immunization Schedule	4
Atlas of Stroke Mortality Available.....	5
Kentucky's Smallpox Response	6
Obesity and Diabetes, Kentucky, 2001.....	Insert

diabetes (11.2%) compared with other ethnic groups. Persons with less than a high school education had higher rates of both obesity (27.4%) and diabetes (13%) than those who had completed high school.

Data in the report were obtained through the Behavioral Risk Factor Surveillance System (BRFSS), the state-based telephone survey that collects information from adults aged 18 years and over. For this survey, participants were asked about their height and weight and if they had ever been told by a doctor that they had diabetes.

***Note:** The BMI is a single number that evaluates an individual's weight status in relation to height. BMI has been the most common method of tracking weight problems and obesity among adults. BMI is a mathematical formula in which a person's body weight in kilograms is divided by the square of his or her height in meters (wt/(ht)²). The BMI is highly correlated with body fat. The criteria for obesity are the same for both men and women. Someone who is 5' 7" is obese at 192 pounds and a person who is 5' 11" is obese at 215 pounds. More on BMI is available at: <http://www.cdc.gov/nccdphp/dnpa/bmi/index.htm>.

For more information about diabetes, obesity, and other CDC prevention programs, visit the following web sites: <http://www.cdc.gov/diabetes> and <http://www.cdc.gov/nccdphp/dnpa> or call toll-free 877-CDC-DIAB (877-232-3422) and 888-CDC-4NRG (888-232-4674). To obtain advance copies of electronic maps showing state-by-state prevalence of obesity and diabetes, call 770-488-5131 or 5820.

(Continued on Page 2)

Obesity and Diabetes Epidemics Still on the Rise

(Continued from Page 1)

Obesity and Diabetes in Kentucky

Kentucky had the fourth highest prevalence of obesity among the 50 states and U.S. territories in 2001. Obesity in the Commonwealth increased from 13.3% in 1991 to 24.6% in 2001. Between the years 2000 and 2001, it increased from 23% to 24.6%.

Kentucky's prevalence for diagnosed diabetes in 2001 was 6.7%, an increase over the prevalence estimate of 6.5% for the year 2000.

“These numbers tell one story, but there are other stories out there,” said Kentucky Public Health Commissioner Dr. Rice Leach. “Many people can expect to have their lives negatively impacted earlier in life by the heart disease, kidney disease, gangrene, and other long-term complications of diabetes. Businesses can expect to lose key staff to disability retirement earlier, and more and more resources needed for schools, roads, law enforcement, and other public activities will be

reassigned to health care costs. That is a real shame because most of this would disappear if we would just eat properly, exercise more, and take care of ourselves better overall.”

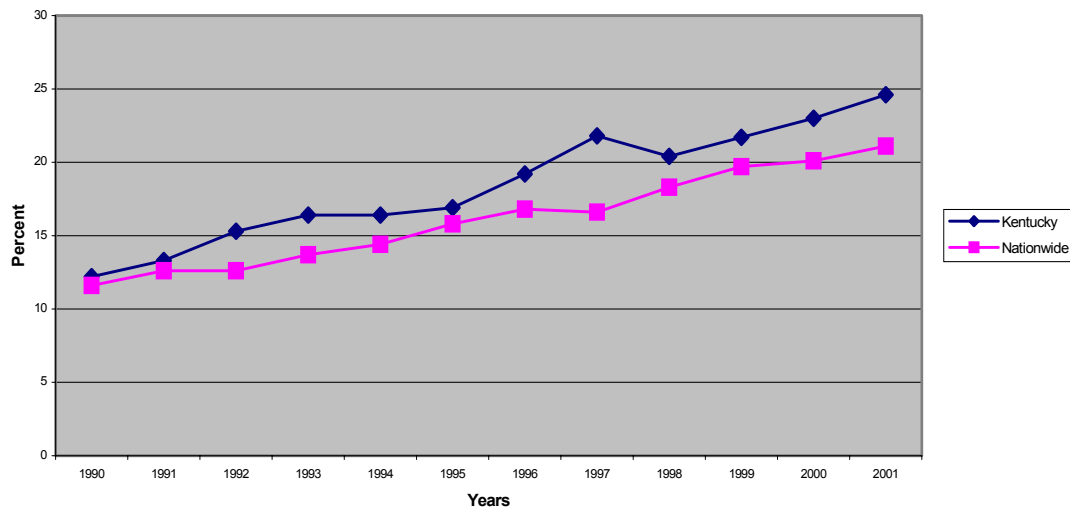
Obesity and Diabetes Recommendations

To address the obesity and diabetes epidemics, CDC recommends 30 minutes of moderate physical activity most days of the week to maintain good health and 60 minutes to achieve significant weight loss. CDC also has worked closely with states and communities to develop programs such as the Active Community Environments Program (ACEs), which promotes walking, bicycling, and developing accessible recreation facilities. CDC supports 59 territorial and state-based diabetes prevention and control programs to help decrease the development of type 2 diabetes, previously called adult-onset diabetes. CDC also collaborates with the National Institutes of Health on the National Diabetes Education Program (NDEP) aimed at improving treatment, promoting early diagnosis, and ultimately preventing the onset of diabetes.

Obesity by Body Mass Index

Kentucky vs. Nationwide

Source: BRFSS



CDC Diabetes Surveillance, 1994—2001

CDC's diabetes surveillance system data show an increasing prevalence (existing cases) of diagnosed diabetes among the states' adult populations between 1994 and 2001—

- In 1994, 14 states had an age-adjusted prevalence of diagnosed diabetes of less than 4%. Only two states had an age-adjusted prevalence of 6% or greater.

- By 2001, no state had an age-adjusted prevalence of diagnosed diabetes of less than 4%; 29 states, as well as the District of Columbia and Puerto Rico, had an age-adjusted prevalence of 6% or greater.

- Age-adjusted prevalence of diagnosed diabetes tended to be greater in the South and in the East than in the West.

(Continued on Page 3)

CDC Diabetes Surveillance System: Prevalence of Diabetes in Kentucky

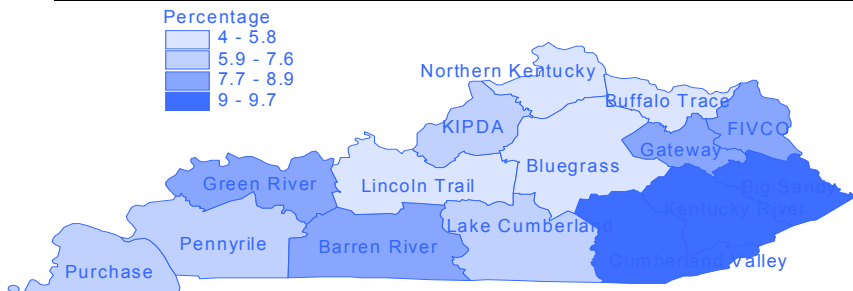
Numbers (in thousands) with diagnosed diabetes, by age.
1994-2001

Year	Age Group				Total
	18-44	45-64	65-74	75+	
1994	15	41	37	15	109
1995	15	46	38	16	116
1996	16	55	37	20	128
1997	21	65	40	23	149
1998	25	72	43	29	169
1999	25	80	47	28	182
2000	32	88	48	27	195
2001	33	94	48	23	198

Percentage of diagnosed diabetes, adult population, by age.
1994-2001

Year	Age Group					Age-adjusted
	18-44	45-64	65-74	75+	Total	
1994	1.0	5.5	11.4	9.2	3.9	3.9
1995	1.0	6.0	11.5	9.3	4.1	4.1
1996	1.0	6.9	11.3	10.2	4.4	4.4
1997	1.3	7.8	12.0	11.7	5.1	5.1
1998	1.6	8.3	13.1	13.8	5.7	5.6
1999	1.6	9.1	14.4	13.9	6.2	6.0
2000	2.1	9.6	14.3	13.7	6.5	6.4
2001	2.1	10.1	13.9	12.7	6.6	6.4

**Diabetes in Kentucky
2001 BRFSS Data by Area Development District**



Diabetes by Nation, Kentucky, and ADD BRFSS 2001		
	%	95% (CI)
National Median	6.6	
Total Kentucky	6.7	(6.0 - 7.4)
ADDs		
Barren River	8.8	(6.5 - 11.7)
Big Sandy	9.2	(6.6 - 12.6)
Bluegrass	4.0	(2.6 - 6.1)
Buffalo Trace	5.2	(3.3 - 8.0)
Cumberland Valley	9.7	(7.1 - 13.1)
FIVCO	8.0	(6.1 - 10.5)
Gateway	8.9	(6.4 - 12.3)
Green River	8.0	(5.6 - 11.2)
Kentucky River	9.4	(7.0 - 12.5)
KIPDA	6.8	(4.9 - 9.3)
Lake Cumberland	7.6	(5.6 - 10.2)
Lincoln Trail	5.8	(4.0 - 8.5)
Northern Kentucky	4.8	(3.3 - 6.9)
Pennyrile	6.3	(4.2 - 9.4)
Purchase	7.1	(5.2 - 9.6)

CDC Diabetes Surveillance, 1994—2001

(Continued from Page 2)

- With the exception of three states (Nebraska, New Hampshire, Vermont), the age-adjusted prevalence of diagnosed diabetes increased more than 10% between 1994-2001.
- In 10 states (Alabama, Georgia, Kentucky, Maine, Montana, New York, Oklahoma, South Dakota, Washington, and West Virginia), age-adjusted prevalence was at least 50% higher in 2001 than in 1994.
- In 2001, the crude prevalence of diagnosed diabetes ranged from a high of 9.2% in Puerto Rico to a low of 3.9% in Alaska.

—Centers for Disease Control & Prevention
Diabetes Surveillance System

Recommended Childhood and Adolescent Immunization Schedule United States, 2003

Information from Centers for Disease Control and Prevention, "Recommended Childhood and Adolescent Immunization Schedule. United States—2003." MMWR 2003; 52: Q1-4. Immunization schedules referenced in this article are available in the January 31, 2003 issue of Morbidity and Mortality Weekly Report and online at CDC's website at <http://www.cdc.gov/mmwr>.

Recommended Childhood and Adolescent Immunization Schedule

Each year, CDC's Advisory Committee on Immunization Practices (ACIP) reviews the recommended childhood and adolescent immunization schedule to ensure that it is current with changes in manufacturers' vaccine formulations and contains revised recommendations for the use of licensed vaccines, including those newly licensed. The recommended childhood immunization schedule for 2003 has remained the same in content and format since January 2002¹. The recommendations and format have been approved by ACIP, the American Academy of Family Physicians, and the American Academy of Pediatrics.

Catch-Up Childhood and Adolescent Immunization Schedule

A new catch-up immunization schedule for children and adolescents who start late or who are >1 month behind is presented for the first time in 2003. Minimum ages and minimum intervals between doses are provided for each of the routinely recommended childhood and adolescent vaccines. The schedule is divided into two age groups, children aged 4 months to 6 years and children/adolescents aged 7 to 18 years.

Hepatitis B Vaccine

The schedule indicates a preference for administering the first dose of hepatitis B vaccine to all newborns soon after birth and before hospital discharge. Administering the first dose of hepatitis B vaccine soon after birth should minimize the risk for infection caused by errors or delays in maternal hepatitis B surface antigen (HBsAg) testing or reporting, or by exposure to persons with chronic hepatitis B virus (HBV) infection in the household, and can increase the child's likelihood of completing the vaccine series. Only monovalent hepatitis B vaccine can be used for the birth dose. Either monovalent or combination vaccine can be used to complete the series. Four doses of hepatitis B vaccine can be administered to complete the series when a birth dose is given. In addition to receiving hepatitis B immune globulin (HBIG) and the hepatitis B vaccine series, infants born to HBsAg-positive mothers should be tested for HBsAg and antibody to HBsAg (anti-HBs) at age 9 to 15 months to identify those with chronic HBV infection or those who might require revaccination².

Influenza Vaccine

In addition to the recommendation to administer annual influenza vaccine to children at high risk, healthy children aged 6 to 23 months are encouraged to receive influenza vaccine when feasible. Children in this age group are at substantially increased risk for influenza-related hospitalizations³.

Inactivated Poliovirus Vaccine

The inactivated poliovirus (IPV) vaccine footnote has been removed from the Recommended Childhood and Adolescent Immunization Schedule, reflecting the cessation of the use of oral poliovirus (OPV) vaccine in the United States. An all-IPV schedule for routine childhood poliovirus vaccination has been recommended in the U.S. since January 1, 2000⁴. All children should receive four doses of IPV at age 2, 4, and 6 to 18 months, and at age 4 to 6 years. For children who received an all-IPV or all-OPV series, a fourth dose is not necessary if the third dose was administered at age ≥ 4 years. If both OPV and IPV were administered as part of a series, a total of four doses should be administered regardless of the child's current age. Routine poliovirus vaccination is not generally recommended for persons aged ≥ 18 years residing in the U.S.⁵.

Vaccine Supply Recommendations

As a result of the vaccine supply shortage, deferral of some doses of pneumococcal conjugate vaccine (PCV) has been recommended⁶; health-care providers should record patients for whom vaccination has been deferred and should contact them once the supply has been restored. Supplies of tetanus and diphtheria toxoids (Td) vaccine; diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine; measles, mumps, and rubella (MMR) vaccine; and varicella vaccine in the U.S. have become sufficient to permit the resumption of the routine schedule for use as recommended by ACIP⁷⁻⁹.

The range of recommended ages for the Td vaccine has been extended to 18 years to emphasize that the vaccine can be administered during any visit if at least five years have elapsed since the last dose of tetanus and diphtheria toxoid-containing vaccine.

(Continued on Page 5)

2003 Immunization Schedule

(Continued from Page 4)

Information about vaccine shortages is available from CDC's National Immunization Program at <http://www.cdc.gov/nip/news/shortages/default.htm>.

Vaccine Information Statements

The National Childhood Vaccine Injury Act requires that all health care providers give parents or patients copies of Vaccine Information Statements before administering each dose of the vaccines listed in the schedule. Additional information is available from state health departments and at <http://www.cdc.gov/nip/publications/vis>.



Detailed recommendations for using vaccines are available from the manufacturers' package inserts, ACIP statements on specific vaccines, and the *2000 Red Book*¹⁰. ACIP statements for each recommended childhood vaccine can be viewed, downloaded, and printed from CDC's National Immunization Program at <http://www.cdc.gov/nip/publications/acip-list.htm>. Instructions on the use of the Vaccine Information Statements are available at <http://www.cdc.gov/nip/publications/vis/vis-instructions.pdf>.

References

1. CDC. Recommended childhood immunization schedule---United States, 2002. MMWR 2002;51:31--3.
2. CDC. Hepatitis B virus: a comprehensive strategy for eliminating transmission in the United States through universal childhood vaccination: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1991;40(No. RR-13).
3. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2002;51(No. RR-3).
4. CDC. Updated recommendations on the use of pneumococcal conjugate vaccine in a setting of vaccine shortage---Advisory Committee on Immunization Practices. MMWR 2001;50:1140--2.
5. CDC. Recommendations of the Advisory Committee on Immunization Practices: revised recommendations for routine poliomyelitis vaccination. MMWR 1999;48:590.
6. CDC. Poliovirus prevention in the United States: updated recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2000;49(No. RR-5).
7. CDC. Resumption of routine schedule for tetanus and diphtheria toxoids. MMWR 2002;51:529--30.
8. CDC. Resumption of routine schedule for diphtheria and tetanus toxoids and acellular pertussis vaccine and for measles, mumps, and rubella vaccine. MMWR 2002;51:598--9.
9. CDC. Resumption of routine schedule for varicella vaccine. MMWR 2002;51:679.
10. American Academy of Pediatrics. Active and passive immunization. In: Pickering LK, ed. 2000 Red Book: Report of the Committee on Infectious Diseases; 25th ed. Elk Grove Village, Illinois: American Academy of Pediatrics, 2000.

U.S. Atlas of Stroke Mortality Now Available

According to a January 2003 publication, *Atlas of Stroke Mortality: Racial, Ethnic, and Geographic Disparities in the United States*, a total of 19,500 persons ages 35 and older died from stroke in Kentucky during 1991-1998. A summary of stroke statistics for the state's population, age 35 and over, is shown by gender in the table below. Further breakdowns by racial and ethnic group are included in the *Atlas*.

Kentucky Stroke Deaths, 1991-1998

Kentucky	Number Deaths	Death Rate per 100,000	State's National Rank*
Total Population	19,500	133	25 of 51 States
Women	12,022	128	23 of 51 States
Men	7,478	140	28 of 51 States

In Kentucky, Blacks experienced the highest stroke death rate, whereas Asians and Pacific Islanders and Hispanics experienced the lowest rates.

Maps depicting the geographic disparities of stroke death rates for counties in Kentucky by racial and ethnic group are available online at www.cdc.gov/cvh/maps.

To obtain a free copy of the *Atlas of Stroke Mortality: Racial, Ethnic, and Geographic Disparities in the United States*, send an email to cdcinfo@cdc.gov or call toll free 1-888-232-2306. To view interactive maps of stroke mortality or download sections of the *Atlas*, visit www.cdc.gov/cvh/maps.

* National rank of states with sufficient population sizes to calculate a rate (1=lowest rate). District of Columbia is included in ranking.

KENTUCKY EPIDEMIOLOGIC NOTES & REPORTS

Printed With State Funds
by the
Commonwealth of Kentucky
Cabinet for Health Services
Department for Public Health
275 East Main Street
Frankfort, Kentucky 40621



PRSR STD
U.S. Postage Paid
Lexington, KY
Permit No. 1

Kentucky Epidemiologic Notes and Reports, a monthly publication, is available without charge to subscribers. Although materials may be reproduced without permission, we appreciate acknowledgement. For more information call 502-564-3418.

Visit our Website:

<http://publichealth.state.ky.us/newsletters-pub.htm>

Rice C. Leach, MD,
Commissioner, Department for Public Health
Steven J. Engender, MD, MPH,
State Epidemiologist and Director,
Division of Epidemiology and Health Planning
Molly M. Cone, Editor

RETURN SERVICE REQUESTED

Kentucky's Smallpox Response

The Kentucky Department for Public Health (KDPH) conducted four regional smallpox vaccination training sessions for local health department staff across the state between February 19 and March 5.

During the training sessions, which were part of Kentucky's response to the national smallpox preparedness plan, KDPH staff taught volunteers from local health departments and others how to interview potential vaccinees, record required information, and check for successful vaccination. As part of the training, KDPH staff vaccinated volunteers so they could observe the proper technique. With the addition of these vaccinated volunteers, Kentucky has personnel prepared to investigate possible smallpox cases and vaccinate others if indicated.

The Department for Public Health plans to carry out vaccinations of Smallpox Response Team Members in three steps with approximately three weeks (or the complete recovery time following vaccination) between each step.

Step one was a January 30 "Train-the-Trainer" session in Frankfort. Step two, the four recent training clinics, prepared additional vaccinators to administer vaccine to Smallpox Response Team members at 10 regional vaccination clinics. Finally, in step three, the 10 regional vaccination clinics will vaccinate members of Smallpox Medical Care and Public Health Response Teams.

The CDC has approved Kentucky's Pre-Event Vaccination Plan to offer vaccine to up to 8,000 members of Smallpox Response Teams made up of health care workers. Individuals to be offered the vaccine have been identified by local health departments and acute care hospitals to provide medical, disease investigation, and vaccination capabilities in the event of a smallpox outbreak. Vaccination is voluntary.

For updated vaccination totals and adverse event reporting for Kentucky and other states, visit the following CDC website: <http://www.cdc.gov/od/oc/media/smpxrprt.htm>. (Numbers will be updated each Thursday by noon ET.)



Diabetes

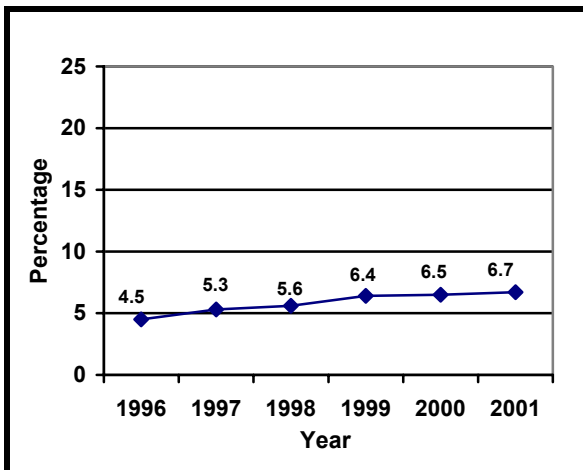
Kentucky Behavioral Risk Factor Surveillance System 2001

Definition :

Individuals age 18 and older who stated "Yes" to the following question, "Have you ever been told by a doctor that you have diabetes?" This does not include women who have been told that they have diabetes only during pregnancy.

- In Kentucky, 6.7% of the adult population have been told by a doctor that they have diabetes.
- In 2001, approximately the same percentage of males as females had ever been told by a doctor that they have diabetes.
- Diabetes awareness is 10.4% among African Americans and 6.3% among Whites.
- Among age groups, 12.8% of those age 65 and older have been told by a doctor that they have diabetes compared to only .3% of those age 18-24.
- Diabetes awareness has increased from 4.5% in 1996 to 6.7% in 2001.

**Diabetes
BRFSS, Kentucky Statewide Data**



Diabetes by Demographic Groups Kentucky BRFSS 2001		
Demographic Groups	%	95% (CI)
Total	6.7	(6.0 - 7.4)
Gender		
Male	6.9	(5.9 - 8.2)
Female	6.4	(5.6 - 7.3)
Race		
White/NH	6.3	(5.7 - 7.1)
African American/NH	10.4	(7.1 - 15.0)
Age		
18-24	.3	(.1 - 1.1)
25-34	1.7	(1.1 - 2.9)
35-44	4.9	(3.5 - 6.8)
45-54	7.8	(6.2 - 9.8)
55-64	12.9	(10.6 - 15.7)
65+	12.8	(10.8 - 15.1)
Education		
Less than H.S.	11.0	(9.3 - 13.0)
H.S. or GED	6.2	(5.1 - 7.4)
Some Post H.S.	5.8	(4.6 - 7.5)
College Graduate	4.3	(3.1 - 6.0)
Household Income		
Less than \$15,000	12.5	(10.3 - 15.1)
\$15,000 - 24,999	8.0	(6.3 - 10.1)
\$25,000 - 34,999	5.5	(3.7 - 8.0)
\$35,000 - 49,999	5.4	(3.7 - 7.8)
\$50,000 +	3.9	(2.8 - 5.5)

Missing, "Don't Know" and Refused Responses are excluded.
95% CI = 95% Confidence Interval
NH = Non-Hispanic



Obesity

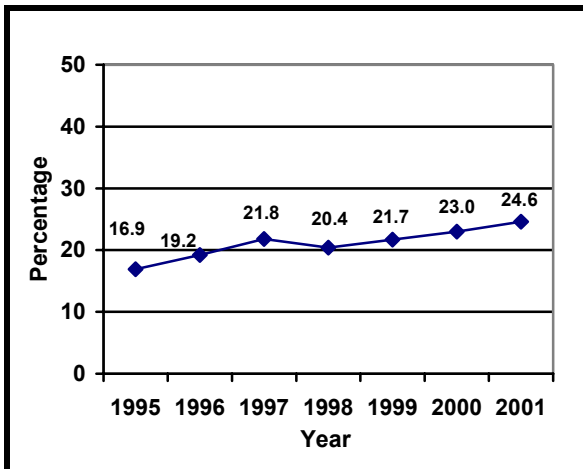
Kentucky Behavioral Risk Factor Surveillance System 2001

Definition :

Individuals age 18 and older who have a body mass index (BMI) of greater than or equal to 30 kg/m².

- In Kentucky, 24.6% of the adult population are obese.
- Approximately the same percentage of males and females are obese.
- A higher percentage of African Americans, 32.7%, are obese compared to Whites, 24.3%.
- The percentage of adult Kentuckians who are obese has increased from 16.9% in 1995 to 24.6% in 2001.

**Obesity
BRFSS, Kentucky Statewide Data**



Obesity by Demographic Groups Kentucky BRFSS 2001		
Demographic Groups	%	95% (CI)
Total	24.6	(23.2 - 26.2)
Gender		
Male	25.7	(23.5 - 28.2)
Female	23.6	(21.8 - 25.5)
Race		
White/NH	24.3	(22.7 - 25.9)
African American/NH	32.7	(26.4 - 39.8)
Age		
18-24	17.8	(13.5 - 23.0)
25-34	24.8	(21.2 - 28.9)
35-44	27.5	(24.3 - 31.0)
45-54	28.7	(25.4 - 32.2)
55-64	27.1	(23.5 - 31.0)
65+	20.3	(17.7 - 23.3)
Education		
Less than H.S.	28.6	(25.6 - 31.8)
H.S. or GED	26.8	(24.2 - 29.5)
Some Post H.S.	22.3	(19.6 - 25.3)
College Graduate	19.4	(16.5 - 22.8)
Household Income		
Less than \$15,000	28.7	(25.0 - 32.7)
\$15,000 - 24,999	28.7	(25.1 - 32.6)
\$25,000 - 34,999	28.4	(24.2 - 33.0)
\$35,000 - 49,999	26.2	(22.4 - 30.4)
\$50,000 +	21.9	(18.7 - 25.5)

Missing, "Don't Know", and Refused Responses are excluded.
95% CI = 95% Confidence Interval
NH = Non-Hispanic